

**WHAT IS CLAIMED IS:**

1. A semiconductor structure comprising: a substrate, a  $\text{Sn}_x\text{Ge}_{1-x}$  layer formed over the substrate, and a Ge-Sn-Si layer formed over the  $\text{Sn}_x\text{Ge}_{1-x}$  layer.
2. The semiconductor structure of claim 1 wherein the substrate comprises silicon.
3. A method for synthesizing a compound having the molecular formula  $\text{H}_3\text{Si-GeH}_3$ , the method comprising combining  $\text{H}_3\text{SiO}_3\text{SCF}_3$  with  $\text{KGeH}_3$  under conditions whereby  $\text{H}_3\text{SiGeH}_3$  is obtained.